

REMARKS

Claims 1-4 are pending.

In Paragraph No. 2 of the Action, claims 1-4 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Shimazu et al (WO 99/67097), Verschueren et al (6,340,815) or Nakamura et al (EP1120246), in view of Aoai et al (5,683,856).

Applicant submits that this §103 rejection should be withdrawn because Shimazu et al, Verschueren et al, Nakamura et al and Aoai et al do not disclose or render obvious the lithographic printing plate precursor of the present invention.

As recited in independent claim 1, the present invention relates to a lithographic printing plate precursor. The printing plate precursor includes a hydrophilic support. A "first layer" including a first resin that is water-insoluble and alkali-soluble is provided on the support, and a "second layer" comprising a second resin that is water-insoluble and alkali-soluble is also provided on the support, in this order. A light-to-heat converting agent is incorporated into at least one of the first layer and second layer. The printing plate precursor additionally includes an organic solvent or solvents having a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye. The solvent(s) are selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide, and are employed in an amount of from 0.5 to 5% by weight based on the total dry weight of the first layer and second layer. See claim 1.

The Present Claims Are Patentable Over Shimazu et al in view of Aoai et al

Shimazu et al is different from the lithographic printing plate precursor of the present invention because the so-called "first layer" of Shimazu et al is composed of a polymeric material which is soluble or dispersible in an aqueous solution having a pH of about 6 or greater,

that is, in a slightly acidic, neutral or alkaline aqueous solution. See Shimazu et al at page 5, lines 8-12. In contrast, the first resin employed in the first layer of the present invention is water-insoluble. See present claim 1. See also page 9 of the Remarks accompanying the Amendment filed February 23, 2006. Aoai et al does not make up for this deficiency of Shimazu et al.

In addition, Aoai et al relates to a positive-working photosensitive composition in which development solubilization is conducted by generating an acid upon irradiation with light, and then decomposing a polymer by the generated acid. In contrast, the present invention relates to an image forming method, which does not utilize the generation of an acid and the decomposition of a polymer by the acid. Therefore, Aoai et al and the present invention essentially belong to different technical fields.

As the requirements for the solvents of Aoai et al, Aoai et al simply calls for a solvent capable of solubilizing the above materials in order to coat such materials as a solution. Aoai et al merely lists applicable solvents, but does not expect a specific function exerted by the intentional remains of the employed solvents, in the composition.

Therefore, there is no reason why a person of ordinary skill in the art would have been motivated in view of Aoai et al to employ N-methylpyrrolidone or dimethylsulfoxide as a coating solvent for Shimazu et al's ingredients, as opposed to any of the many other solvents in Shimazu et al that are outside the scope of the present claims. It appears that there is an element of hindsight to the rejection, or at least an "obvious to try" approach, both of which are improper.

Indeed, if a person of ordinary skill was interested in seeing what solvent(s) Aoai et al actually preferred, he or she would look to the working Examples of Aoai et al. As seen there,

the only solvent Aoi et al actually employed was propylene glycol monomethyl ether acetate, a solvent which is outside of the scope of the present claims.

The Present Claims Are Patentable Over Verschueren et al in view of Aoi et al

Applicant respectfully traverses this rejection on essentially the same grounds stated in the first three paragraphs on page 7 of the Amendment filed February 23, 2006. As explained there, the “top layer” of Verschueren et al does not satisfy the requirement of the present claims that the recited “second layer” be water-insoluble and alkali-soluble. The “top layer” of Verschueren et al is impenetrable for an alkaline developer and only becomes alkali-soluble upon image-wise exposure. See Verschueren et al’s Abstract and column 5, lines 40-43. The requirement of the present claims for “a second resin” in the recited second layer that is alkali-soluble means that this resin is alkali-soluble in the first instance, not just after it is exposed.

With regard to the solvents employed, the Examiner appears to be correct that Verschueren et al employed different solvents for the respective layers, as seen in the working Examples of Verschueren et al, where they typically employed tetrahydrofuran/methoxypropanol for coating the first layer, and methylethylketone/methoxypropanol for coating the top or second layer.

However, there is no clear motivation found in the art to replace the tetrahydrofuran/methoxypropanol as employed in Verschueren et al with DMSO or N-methylpyrrolidone as disclosed in Aoi et al, as opposed to any of the other numerous solvents disclosed in Aoi et al which are outside the scope of the present claims. The disclosure of Aoi

et al in this regard has been discussed in detail, above. The present claims are patentable over Verschueren et al and Aoi et al.

The Present Claims Are Patentable Over Nakamura EP '246 in view of Aoi et al

As an initial matter, the Examiner's assertion with regard to Nakamura EP '246 that "the solvents [for each layer] are different" appears to be incorrect. The solvents employed in the first and second layers of the working Examples of Nakamura EP '246 are the same. See, e.g., [0191] and [0194] at page 18 of Nakamura EP '246.

Given Nakamura EP '246's disclosure of various solvents at [0126], it is not immediately apparent to Applicant how Aoi et al adds anything to the previous rejection based on Nakamura EP '246 alone.

Accordingly, Applicant traverses the present rejection on the grounds similar to those on which he traversed the section 102 anticipation rejection based on Nakamura EP '246 alone from the previous Action.

Nakamura et al discloses a positive planographic printing original plate which enables direct plate-making using a solid or semiconductor laser. The plate includes a first layer which contains a polymer that is insoluble in water and soluble in an alkali solution, and a second layer which contains an infrared radiation absorber and a binder, which "is not penetrative into an alkali developing solution containing an organic compound having a buffering effect and a base as principle components, and which is increased in solubility in an alkali developing solution by action of one of light and heat." The layers are sequentially provided on a support. See Nakamura et al's Abstract.

Nakamura et al does not disclose or fairly suggest the use of the specific organic solvent(s) called for in the present invention, that is, solvents which have a boiling point of not less than 150°C and a dipole moment of not less than 3.50 debye, selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. Nakamura et al discloses at paragraph 0126 a broad genus of solvents which includes, among many others, the three solvents recited in present claim 1, but there is nothing in Nakamura et al which would motivate one of ordinary skill to employ the specific subgenus of solvents recited in present claim 1.

Aoai et al does not make up for this deficiency of Nakamura et al. There is nothing in Aoai et al which would motivate a person of ordinary skill in the art to employ DMSO or N-methylpyrrolidone in Nakamura et al's composition, as opposed to any of the other numerous solvents disclosed in Aoai et al which are outside the scope of the present claims. The Examiner will kindly refer to the discussion of Aoai et al relative to the patentability of the present invention over Shimazu et al in view of Aoai et al, above.

Turning to the working examples of Nakamura et al, γ -butyrolactone was used as a solvent in the formation of the first and second layers in Example 1 at page 18 of Nakamura et al. Gamma-butyrolactone is outside the scope of present claim 1.

With regard to present claim 2, Nakamura et al does not disclose or render obvious the method of present claim 2. This method requires that a particular solvent be employed in coating the first layer, and that a different solvent not containing the first solvent be employed in coating the second layer. This is in contrast to Example 1 (and the other examples) of Nakamura et al, in which γ -butyrolactone was used in coating both layers. There does not appear to be anything in

Nakamura et al which discloses or suggests using the specific different solvents in the specific manner called for in method claim 2. Still further, claim 4 (which depends from claim 2) recites that the solvent(s) is selected from N-methylpyrrolidone, N,N-dimethylacetamide and dimethylsulfoxide. As discussed, Nakamura et al does not disclose or fairly suggest this particular subgenus of three solvents. Aoai et al does not make up for these deficiencies of Nakamura et al.

As to independent claim 3, this claim expressly recites that the first layer includes the solvent(s) having a boiling point of not less than 150 °C and a dipole moment of not less than 3.50 debye, whereas the second layer does not contain the organic solvent having a boiling point of not less than 150 °C and a dipole moment of not less than 3.50 debye. Claim 3 distinguishes Nakamura et al EP '236 for at least the reason that Nakamura et al EP '236 does not disclose or suggest this requirement of present claim 3. In this regard, the Examiner will kindly turn to the working examples of Nakamura et al, and note that γ -butyrolactone was used as a solvent in the formation of both the first and second layers in Example 1 at page 18 of Nakamura et al. Again, Aoai et al does not make up for the deficiencies of Nakamura et al.

For all of these reasons, the present claims are patentable over Nakamura et al EP '246 and Aoai et al.

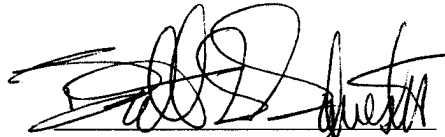
Accordingly, the Examiner is respectfully requested to reconsider and withdraw the section 103 rejection of claims 1-4 based on Shimazu et al WO '097, Verschueren et al '815 or Nakamura et al EP '246, in view of Aoai et al '856.

Response Under 37 C.F.R. § 1.116
U.S. Appln. No.: 10/805,261

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brett S. Sylvester", written over a horizontal line.

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